

We claim:

1. A wheeled carriage for supporting a patient in a substantially horizontal position, comprising:

a patient support having a length, opposing ends of the length comprising a head end and a foot end of said patient support, said patient support having a pair of lateral sides intermediate the head and foot ends;

a wheeled base having a length and supporting said patient support and enabling movement of said patient support, said wheeled base including at least four floor surface engaging and castered wheels spaced from one another;

an auxiliary wheel support structure secured to said wheeled base and suspendedly supporting at least one auxiliary wheel about an axis transverse to the length of said wheeled base; and

a control apparatus for controlling said auxiliary wheel support structure to move said at least one auxiliary wheel between at least a first deployed position whereat said auxiliary wheel is in contact with a floor surface, and a second stowed position whereat said at least one auxiliary wheel is out of engagement with the floor surface, said control apparatus including at least one manipulative member mounted to said auxiliary wheel support structure, said manipulative member being lowered relative to the wheeled base during movement of said auxiliary wheel to the deployed position and raised relative to the wheeled base during movement of said auxiliary wheel to the stowed position.

2. The wheeled carriage of Claim 1, wherein said control apparatus comprises a transverse auxiliary wheel

position control shaft rotatably secured to said auxiliary wheel support structure and said manipulative member comprises a laterally oriented manipulative member fixedly secured to an end of said transverse control shaft, said laterally oriented manipulative member being located at one of the pair of lateral sides intermediate the head and foot ends of the wheeled carriage.

3. The wheeled carriage of Claim 2, said control apparatus comprising a longitudinal control shaft extending along the length of said wheeled base and an end oriented manipulative member fixedly secured to one end of said longitudinal control shaft,

wherein said auxiliary wheel support structure comprises a pair of spaced parallel support arms each supporting said auxiliary wheel at one end and each pivotably mounted to said wheeled base at the opposing end, and

said control apparatus includes a transverse control shaft linkage comprising:

a link bar having one end joined pivotably to said transverse control shaft;

a rotatable transfer member rotatably mounted to one of said support arms, said transfer member having a first projecting section pivotably connected to the other end of said link bar and a second projecting section;

a swivel member pivotably secured at one end to said second projecting section of said transfer member; and

a swivel joint secured to said longitudinal control shaft for receiving said swivel member,

wherein rotational movement of said transverse control shaft acts upon said link bar and said transfer member to generally linearly move said swivel member in a first direction, and wherein the linear movement of said swivel member is translated by said swivel joint into rotational movement of said longitudinal control shaft.

4. The wheeled carriage of Claim 3, wherein said control apparatus comprises a cam apparatus mounted to said wheeled base and linking said longitudinal control shaft to a cam follower fixed to said auxiliary wheel support structure.

5. The wheeled carriage of Claim 4, wherein said cam apparatus comprises a rotatable cam member and a cam control linkage so that rotation of said longitudinal control shaft rotates said cam member.

6. The wheeled carriage of Claim 5, wherein said cam member includes a cam surface having a cam brake/neutral depression and a cam deployment depression, wherein each of said manipulative members is capable of operating said cam control linkage to move said cam follower into contact with said cam brake/neutral depression to provide said at least one auxiliary wheel in the stowed position and is capable of operating said cam control linkage to move said cam follower into contact with said cam deployment depression for lowering said cam follower and moving said auxiliary wheel to the deployed position.

7. The wheeled carriage of Claim 1, said control apparatus including an auxiliary wheel biasing spring

positioned between said wheeled base and said auxiliary wheel support structure for urging said at least one auxiliary wheel into the stowed position.

8. The wheeled carriage of Claim 1, wherein said control apparatus comprises a transverse control shaft receiving said manipulative member and located along an axis of said at least one auxiliary wheel and movable with said at least one auxiliary wheel between the stowed position and the deployed position.

9. The wheeled carriage of Claim 1, wherein said at least one auxiliary wheel comprises a first auxiliary wheel and said auxiliary wheel support structure supports a second auxiliary wheel parallel to said first auxiliary wheel and having the same axis.

10. The wheeled carriage of Claim 9, wherein in the deployed position, at least two of said floor surface engaging wheels adjacent said auxiliary wheel support structure are out of contact with the floor surface.

11. A wheeled carriage for supporting a patient in a substantially horizontal position, comprising:

a patient support having head and foot ends and a pair of lateral sides intermediate said head and foot ends and a wheeled base supported on at least four floor surface engaging and castored wheels spaced from one another at locations defining corners of a theoretical polygon;

an auxiliary wheel support structure secured to said wheeled base for suspendedly mounting at least one

auxiliary wheel oriented inside a boundary of the theoretical polygon; and

a control apparatus for controlling said auxiliary wheel support structure to pivot said at least one auxiliary wheel between a first deployed position in contact with a floor surface, and a second stowed position whereat said at least one auxiliary wheel is out of engagement with the floor surface, said control apparatus comprising:

an elongate longitudinal control shaft having a longitudinal axis parallel to a longitudinal axis of said wheeled base;

at least one end oriented manipulative member connected to an end of said longitudinal control shaft and oriented adjacent one of said head and foot ends;

a transverse control shaft positioned in a central aperture of said at least one auxiliary wheel and oriented along an axis transverse to the longitudinal axis of said wheeled base; and

at least one laterally oriented manually manipulative member connected to said transverse control shaft and oriented adjacent at least one of the pair of lateral sides,

wherein said transverse control shaft moves along with said auxiliary wheel to the deployed position and to the stowed position, and

wherein said longitudinally and laterally oriented manipulative members control deployment of said at least one auxiliary wheel.

12. The wheeled carriage of Claim 11, said at least one auxiliary wheel comprising first and second spaced auxiliary wheels including auxiliary wheel bearings

receiving said transverse control shaft so that said auxiliary wheels rotate independently from rotation of said transverse control shaft.

13. The wheeled carriage of Claim 11, wherein said control apparatus includes a transverse control shaft linkage linking said transverse control shaft to said longitudinal control shaft so that rotation of said transverse control shaft rotates said longitudinal control shaft.

14. The wheeled carriage of Claim 13, said auxiliary wheel support structure including a cam follower, and

wherein said control apparatus comprises a cam control apparatus so that rotation of said longitudinal control shaft rotates a cam member to overcome an auxiliary wheel biasing spring and pivot said cam follower and said auxiliary wheel support structure downwardly so that said at least one auxiliary wheel is in the deployed position.

15. The wheeled carriage of Claim 11, wherein said at least one auxiliary wheel is in the stowed position when 1) said longitudinally oriented manipulative member rotates said longitudinal control shaft to a brake position locking said castered wheels or 2) said longitudinally oriented manipulative member rotates said longitudinal control shaft to a neutral position.

16. The wheeled carriage of Claim 11, wherein said auxiliary wheel support structure comprises a pair of

spaced parallel support arms that coact with a cross piece to support said at least one auxiliary wheel.

17. The wheeled carriage of Claim 16, wherein said control apparatus includes a transverse control shaft linkage comprising:

- a link bar having one end joined pivotably to and extending transversely of said transverse control shaft;

- a rotatable transfer member rotatably connected relative to one of said support arms, said transfer member having a first projecting section pivotably connected to the other end of said link bar and a second projecting section;

- a swivel member rotatably secured to said second projecting section of said transfer member;
- and

- a swivel joint secured to said longitudinal control shaft for receiving said swivel member, wherein rotational and translational movement of said transverse control shaft acts upon said link bar and said transfer member to move said swivel member in a substantially linear direction, whereby linear movement of said swivel member is translated by said swivel joint into rotational movement of said longitudinal control shaft.

18. A wheeled carriage for supporting a patient in a substantially horizontal position, comprising:

- a rectangular patient support having head and foot ends and a pair of lateral sides intermediate said head and foot ends and a wheeled base supported on at least four floor surface engaging and castered wheels spaced

from one another at locations defining corners of a theoretical polygon;

an auxiliary wheel support structure secured to said wheeled base for suspendedly mounting at least one auxiliary wheel oriented inside a boundary of the theoretical polygon; and

a control apparatus for controlling said auxiliary wheel support structure to move said at least one auxiliary wheel between a first deployed position in contact with a floor surface, and a second stowed position whereat said at least one auxiliary wheel is out of engagement with the floor surface, said control apparatus comprising:

a transverse control shaft extending through a central aperture of said at least one auxiliary wheel and oriented along an axis transverse to the longitudinal axis of said wheeled base; and

at least one laterally oriented manually manipulative member connected to said transverse control shaft and oriented adjacent at least one of said pair of lateral sides,

wherein, when said at least one auxiliary wheel is in the stowed position, application of a force to said manipulative member provides a rotational force component rotating said transverse control shaft and a linear downwardly directed force component assisting in downward movement of said at least one auxiliary wheel to the deployed position.

19. The wheeled carriage of Claim 18, said control apparatus further comprising:

a longitudinal control shaft having an axis parallel to a longitudinal axis of said wheeled base; and



an end manipulative member secured to an end of said longitudinal control shaft and oriented adjacent one of said head and foot ends; and an auxiliary wheel biasing spring positioned between said wheeled base and said auxiliary wheel support structure for urging said at least one auxiliary wheel into the stowed position,

wherein said at least one auxiliary wheel comprises first and second spaced auxiliary wheels including auxiliary wheel bearings receiving said transverse control shaft so that said auxiliary wheels are rotatable without rotation of said transverse control shaft.

20. The wheeled carriage of Claim 11, wherein said control apparatus includes a transverse control shaft linkage linking said transverse control shaft to said longitudinal control shaft so that rotation of said transverse control shaft rotates said longitudinal control shaft.